

New species of *Anthicus* (*Aulacoderus*), Anthicidae (Coleoptera) from the National Collection of Insects, Pretoria

by

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Six new species of *Anthicus* (*Aulacoderus*) la Ferté are described and illustrated. The material belongs to the National Collection of Insects, Pretoria, where the described specimens are deposited.

INTRODUCTION

In the Monograph of *Anthicus* (*Aulacoderus*) (van Hille, 1984) the species are subdivided in 19 Sections. In the present material only Sections 1, 4, 5 and 8 are represented.

SECTION 1

In the species of this Section the mesepimerite apophyses look as if they are inflated and they have no spiral markings. The three species which have been previously described (van Hille, 1984) are testaceous with a dark transverse band in the middle of the elytra. The prothorax is angular in outline and the angles may be accentuated by lateral points or spines. The tergum of the retracted abdominal segment of the male has a proximally pointing flap with one or two transverse rows of fenestrae. The aedeagus is large, about 1 mm long and complicated in structure. All the species are from the northern or eastern Transvaal.

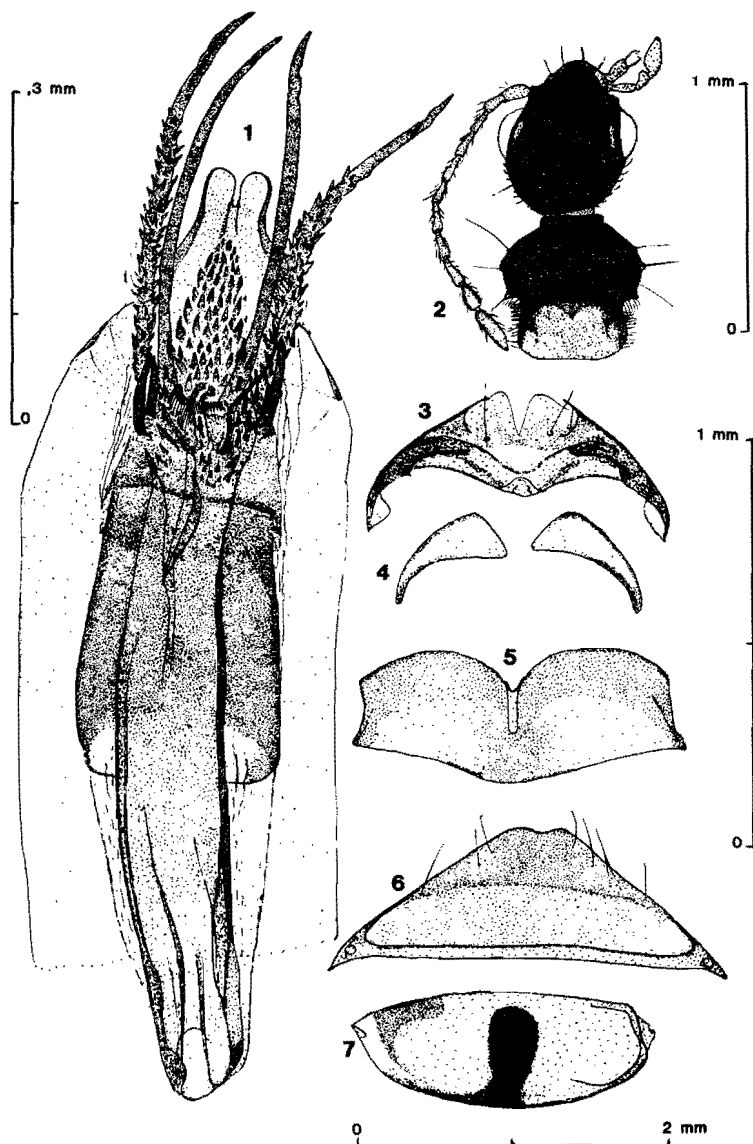
Anthicus (*Aulacoderus*) *chandleri* sp. nov. Figs 1-7

Size. Length 3 mm; width over broadest part of elytra 1.26 mm.

Head (Fig. 2). Glossy, dark testaceous to black; posterior arch broadly rounded. Punctures rather close with short dark procumbent hairs and a few long erect hairs laterally and in front. Eyes bulging.

Prothorax (Fig. 2). Glossy, dark testaceous, slightly lighter than head. On each side three lateral, slightly projecting points, each with a long erect seta. Broader than long, broader than head. Lateral constrictions hairy at 57% of the length of the prothorax. Punctures with short light recumbent hairs, less close than on head, especially on posterior third.

Elytra (Fig. 7). Rounded, glossy, light testaceous with dark transverse band



Figs 1-7. *A. (Aulacoderus) chandleri* sp. nov. 1. aedeagus. 2. head and prothorax. 3. tergum of retracted abdominal segment of male. 4. sternum of retracted abdominal segment of male. 5. last exposed abdominal tergum of male. 6. last exposed abdominal sternum of male. 7. elytron of male. Figs 3, 4, 5 and 6 at same magnification, other figs as indicated.

in the middle, not reaching median suture and with a less dark subapical transverse band, broadening along the median suture.

Wings. Fully developed.

Antennae (Fig. 2). Slender, light testaceous; apical segments not darker and hardly broader than proximal segments; last segment shorter than the combined length of the two preceding segments.

Legs. Light testaceous.

Undersurface. Testaceous; mesepimerite apophyses ovally inflated, without spiral markings.

Male abdomen. Aedeagus (Fig. 1): median lobe elongate; genital opening with grooved margin, surrounded by several dark spines and with two pairs of long lateral apical processes of which the median pair is plain and the lateral pair is covered by short thorns over the proximal $\frac{2}{3}$ of their length; connecting membrane with a dorsal median field of short dark spines; tegmen hardly sclerotized: apical piece lightly pigmented with bilobed apex, basal piece unpigmented, twice as long as apical piece. Retracted segment: tergum (Fig. 3): apex with triangular incision with a long hair on each side, proximal area with two transverse rows of fenestrae and bluntly pointed median lip; sternum (Fig. 4) consisting of a pair of narrow curved sclerites. Last exposed tergum (Fig. 5) bilobed. Last exposed sternum (Fig. 6) triangular with flattened apex, very slightly indented; distal half somewhat darker than proximal half.

MATERIAL EXAMINED. Holotype ♂, SOUTH AFRICA: NW. Transvaal, Mokol Nature Reserve, Ellisras Dist. 23° 28' S, 27° 45' E, 18-23.xi.1979, S. J. van Tonder and C. Kok.

This species comes near to *A. (A.) spinithorax* van Hille (1984, Figs 20-24). In both species the connecting membrane of the aedeagus has a dorsal field with short dark spines and the last exposed tergum of the two species is almost identical. The four long processes of the median lobe of the aedeagus are unique in the above species.

SECTION 4

The species in this Section have an interspicular sclerite between the arms of the Y-shaped spiculum gastrale. Seven species have been previously described, 6 from South Africa and one from Malawi (van Hille, 1984).

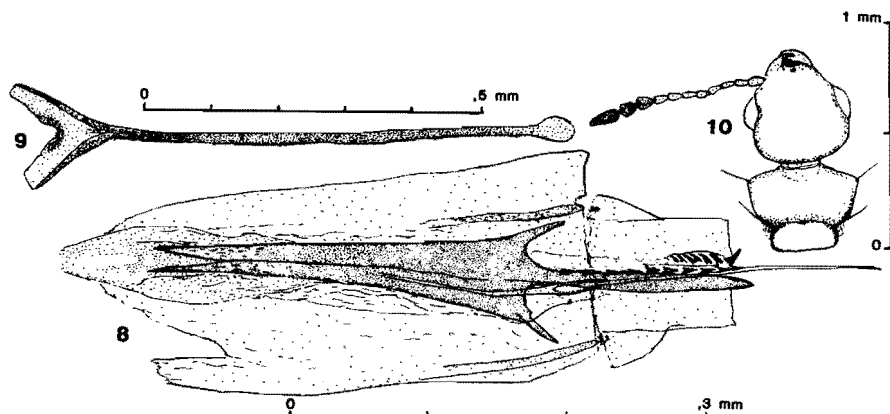
Anthicus (Aulacoderus) moolmanae sp. nov. Figs 8-10

Size. Length 1,95 mm (1,70-2,05); width over broadest part of elytra 0,69 mm (0,54-0,75).

Head (Fig. 10). Glossy, light to dark testaceous. Posterior arch broadly round. Punctures fine with short procumbent hairs. Eyes with narrow dark margin; somewhat bulging.

Prothorax (Fig. 10). Glossy, light testaceous to testaceous, in some specimens somewhat lighter than head. Broader than long, slightly broader than head. Shoulders sloping and angular with a long seta on each angle. Punctures as on head. Lateral constrictions hairy, at $\frac{2}{3}$ of length of prothorax.

Elytra. Somewhat glossy, light testaceous to testaceous, narrow and elongate, in some specimens with an indistinct darker transverse area at half length of elytron; shoulders well developed. Punctures fine with short recumbent hairs and a number of longer semi-erect hairs. In male with short apical point with rounded notch.



Figs 8–10. *A. (Aulacoderus) moolmanae* sp. nov. 8. aedeagus. 9. spiculum gastrale of male. 10. head and prothorax. Magnification as indicated in each case.

Wings. Fully developed.

Antennae (Fig. 10). Testaceous, apical three segments darker and broader; apical segment just shorter than combined length of two preceding segments.

Legs. Light testaceous.

Undersurface. Testaceous, abdominal sterna dark testaceous. Mesepimerite apophyses with rounded apex.

Male abdomen. Aedeagus (Fig. 8): median lobe very slender, ending in a long bristle-like spike; genital opening subapical, narrowly oval, with finely beaded margin; dorsal to the median lobe lies a broader elongate sclerite, split in two at proximal end, then gradually broadening to a pair of lateral short narrow spines lying distally to the half length of the sclerite; beyond these spines the width of the sclerite is reduced to less than a third of its greatest breadth and ends in a pointed apex; connecting membrane with a dorsal longitudinal row of about 17 single teeth; tegmen hardly sclerotized, basal piece about four times as long as apical piece. Retracted segment: tergum slightly indented at apex, apical part darker with dark transverse line; proximal part lighter with two transverse rows of fenestrae, distal row adjacent to dark transverse line, proximal row along proximal margin of tergum, with fenestrae larger than those of distal row and shortly interrupted in middle; sternum not clear in preparation. Spiculum gastrale (Fig. 9): Y-arms narrow, with a v-shaped interspicular sclerite. Last exposed sternum with rounded apex.

MATERIAL EXAMINED. Holotype ♂, 53 paratypes, SOUTH AFRICA: Transvaal, Rustenburg Nature Reserve 25° 40' S–27° 12' E, 22–23.ii.1982, C. G. Moolman. 5 paratypes, same locality, 23–26.ii.1981, R. G. Oberprieler.

SECTION 5

The species of this Section have a pair of elongate sclerites attached to the connecting membrane of the aedeagus, lying parallel to the median lobe. 23 species have been described (van Hille, 1984; van Hille, in press) from South Africa, Zimbabwe and Tanzania.

Within this Section is a special group of species in which the elytra have no colour pattern, the wings are absent, the spiculum gastrale is asymmetrical, in the thorax the metepimera are immovably fused on to the metasternum and the sclerotizations of the connecting membrane of the aedeagus do not form a dorsal longitudinal row of teeth but are present as paired rows of teeth or spines. In this group of species five species have been described, all from the Cape Province. Of the three new species described below, the third one belongs to this group.

***Anthicus (Aulacoderus) harropae* sp. nov. Figs 11–13**

Size. 2,24 mm (2,12–2,45); width over broadest part of elytra 0,82 mm (0,77–0,88).

Head. Glossy, black. Punctures rather close with whitish procumbent hairs but pointing transversely inward in posterior region. Eyes not much bulging.

Prothorax. Glossy, black; broader than long, as broad as head. Shoulders rounded. Punctures somewhat denser and smaller than on head, with recumbent hairs, longer than on head. Lateral constrictions at $\frac{2}{3}$ of length of prothorax.

Elytra (Fig. 12). Somewhat glossy, black, with a pair of orange maculae on posterior half of elytra, reaching neither median suture nor lateral margins. Punctures as dense, but bigger than on prothorax, with recumbent whitish hairs and a number of semi-erect hairs.

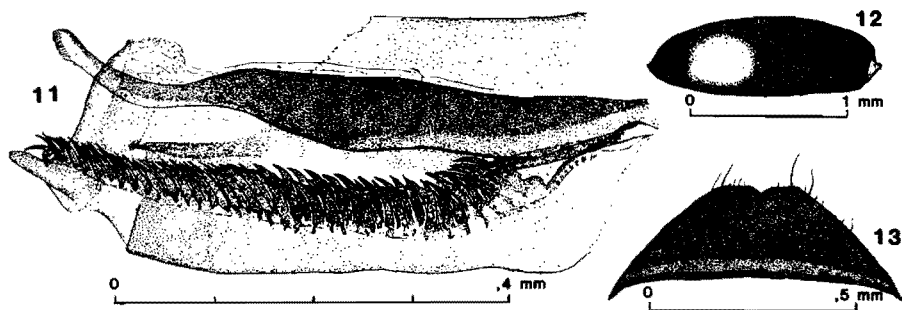
Wings. Fully developed.

Antennae. Black; apical 3–4 segments gradually somewhat broader; last segment as long as combined length of two preceding segments.

Legs. Black.

Undersurface. Black. Mesepimerite apophyses black and bluntly pointed.

Male abdomen. Aedeagus (Fig. 11): median lobe with short apical genital opening with grooved margin; broader toward base; connecting membrane with narrow dorsal field of large pointed teeth and a pair of short simple parallel sclerites, between $\frac{1}{3}$ and $\frac{1}{4}$ of length of median lobe; tegmen: apical piece dorsally pointed; basal piece nine times as long as apical piece. Retracted segment: tergum dark, bluntly pointed with transverse row of fenestrae; sternum consisting of a pair of thin narrow pigmented sclerites with rounded apex, not reaching median line. Spiculum gastrale slender. Last exposed sternum (Fig. 13) with flat apex with small sharp median incision.



Figs 11–13. *A. (Aulacoderus) harropae* sp. nov. 11. aedeagus. 12. elytron of male. 13. last exposed abdominal sternum of male. Magnification as indicated in each case.

MATERIAL EXAMINED. Holotype ♂, 3 paratypes, SOUTH AFRICA; Orange Free State, Abdullam Farm near Clarens 28° 32' S–28° 28' E, 20–26.iii.1980, W. A. Harrop.

***Anthicus (Aulacoderus) otiosus* sp. nov.** Figs 14–17

Size. Length 2.92 mm (2.58–3.15); width over broadest part of elytra 1.11 mm (1.06–1.18).

Head (Fig. 15). Somewhat glossy, black. Posterior arch broadly round. Punctures close with short procumbent hairs. Eyes small, somewhat bulging.

Prothorax (Fig. 15). Somewhat glossy, black; broader than long, broader than head. Shoulders rounded. Lateral constrictions at posterior $\frac{1}{4}$ of length of prothorax, with a few short hairs. Punctures finer than on head, with short recumbent hairs.

Elytra (Fig. 17). Somewhat glossy, black with two pairs of lighter maculae; anterior pair lying close to the lateral margins, somewhat extended toward shoulders; posterior pair round to oval. Punctures slightly wider spaced than on prothorax, with black recumbent hairs but unpigmented on the maculae; with a number of erect hairs.

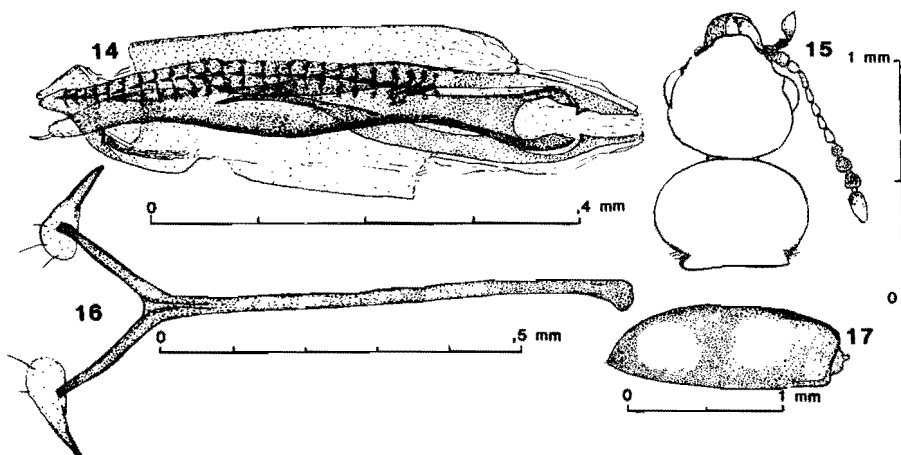
Wings. Full length but venation reduced.

Antennae (Fig. 15). Testaceous, first segment and apical 4–5 segments darker and broader. Last segment about as long as combined length of two preceding ones.

Legs. Testaceous, coxae and femora dark testaceous to black.

Undersurface. Dark testaceous to black. Mesepimerite apophyses short and curved forward.

Male abdomen. Aedeagus (Fig. 14): median lobe slender with small apical spine and elongate subapical genital opening with grooved margin; base ending in two short prongs; connecting membrane with dorsal row of 25–30 single teeth, each tooth with a pigmented ridge at its base; parallel sclerites pointed, somewhat shorter than median lobe; tegmen: apical piece short, ending in two blunt dorsal points; basal piece about six times as long as apical piece. Spiculum gastrale (Fig. 16) elongate, longer



Figs 14–17. *A. (Aulacoderus) otiosus* sp. nov. 14. aedeagus. 15. head and prothorax. 16. spiculum gastrale of male. 17. elytron of male. Magnification as indicated in each case.

than aedeagus; extra-spicular sclerites laterally pointed, medianly rounded with a few hairs. Last exposed sternum with short sharp indentation.

MATERIAL EXAMINED. Holotype ♂, 1 paratype, SOUTH AFRICA: Transvaal, Rustenburg Nature Reserve 25° 40' S–27° 12' E, 17.iii.1980, C. G. Moolman. Same locality, 22–23.ii.1982, C. G. Moolman: 1 paratype. Naboomspruit District, Lekkerus 24° 27' S–28° 33' E, 6.ii.1980, C. G. Moolman: 1 paratype.

***Anthicus (Aulacoderus) vandersteli* sp. nov.** Figs 18–22

Size. Length 3.75 mm; width over broadest part of elytra 0.88 mm.

Head. Matt, black. Posterior arch broadly rounded. Punctures very fine with short procumbent hairs. Eyes not bulging.

Prothorax. Matt, black. Longer than broad, as broad as head. Shoulders round. Punctures fine with short recumbent hairs and a few semi-erect long hairs. Lateral constrictions inconspicuous and without hairs.

Elytra. Matt, black; without shoulders. Punctures distinct, only a few semi-erect hairs are visible. Apex in male truncate with small, almost median point and notch with short narrow duct to point (Fig. 20).

Wings. Absent; metatergum reduced.

Antennae. Dark testaceous; apical five segments slightly broader and shorter than proximal segments. Last segment shorter than combined length of two preceding segments.

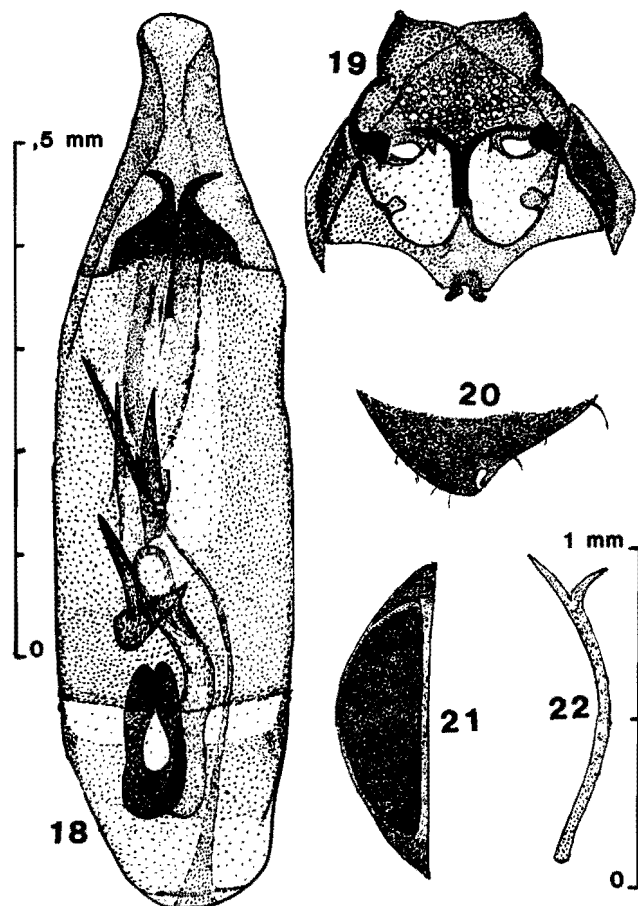
Legs. Dark testaceous.

Undersurface. Thoracic sterna (Fig. 19) dark testaceous, mesosternum darker than metasternum; abdominal sterna black. Mesepimerite apophyses broad and black, no spiral markings can be seen. Metasternum short with a pair of broad apophyses projecting into mesocoxal cavities. Metepimera fused on metasternum. First abdominal sternum with short, inward pointing apophyses.

Male abdomen. Aedeagus (Fig. 18): median lobe short, lying half in basal cap, half in basal part of tegmen, with apical genital opening with grooved margin; connecting membrane with a number of sclerotized structures: the basal one is darkly pigmented, bluntly U-shaped and lies at the base of the median lobe; it may be homologous with the basal structure in *A. (A.) oosthuizeni* van Hille (van Hille, Fig. 9, in press) which was assumed to represent the parallel sclerites. The other sclerotized structures are eight spines: the apical pair lies in the region of the apical piece of the tegmen and has a broad base and outward curved apices; the other spines are straight and are not strictly arranged in pairs; the most apical spine of these six spines is thin and seems to be connected to the apex of the basal cap; the other five spines seem to be unpaired and differ in length and breadth; tegmen elongate with blunt apex, apical piece about half the length of basal piece and about as long as basal cap. Spiculum gastrale (Fig. 22) asymmetrical. Last exposed sternum (Fig. 21) with rounded apex.

MATERIAL EXAMINED. Holotype ♂; the specimen only carries a very small label, the writing is very small and faded but seems to be 'Stellenb', no date, no collector.

This specimen comes near to *A. (A.) apophysialis* van Hille (van Hille, in press, Figs 15–19). It has the same arrangement of apophyses on thoracic and abdominal sterna but in *A. (A.) apophysialis* the spines of the connecting membrane of the aedeagus are strictly arranged in pairs.



Figs 18-22. *A. (Aulacoderus) vandersteli* sp. nov. 18. aedeagus. 19. thoracic sterna. 20. apex of elytron of male. 21. last exposed abdominal sternum of male. 22. spiculum gastrale of male. Figs 18 and 20 at same magnification; figs 19, 21 and 22 at same magnification.

SECTION 8

In the species of this Section the ventral apical or subapical spine of the median lobe of the aedeagus is not a simple spike as in Section 7, but it is either a broader or more shaped structure and may be more complicated by side arms. Eight species have been described in this Section which all occur along or near the African east coast from the Cape to Kenya.

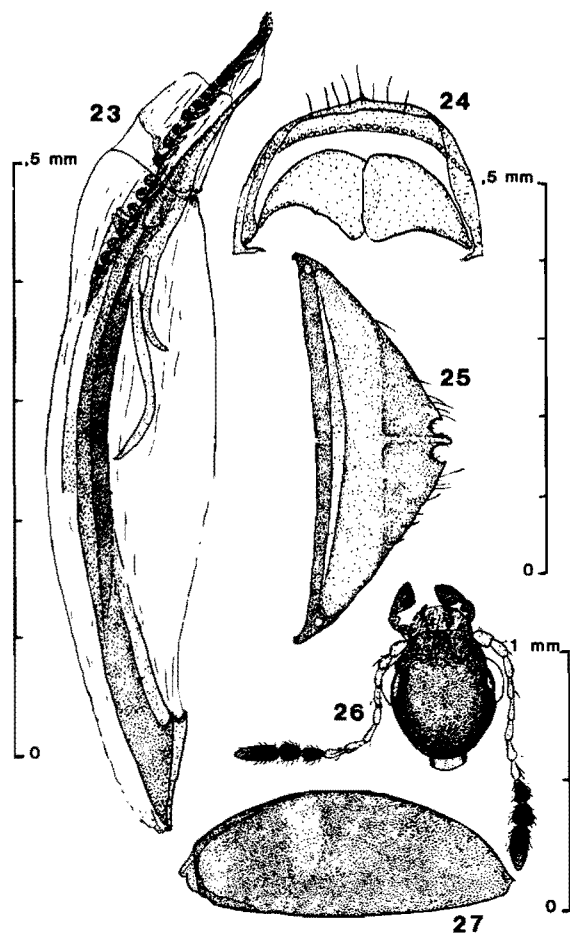
***Anthicus (Aulacoderus) oberprieleri* sp. nov.** Fig 23-27

Size. Length 2,00 mm; width over broadest part of elytra 0,72 mm.

Head (Fig. 26). Glossy, dark testaceous to black. Posterior arch longitudinally oval. Punctures distinct with dark short procumbent hairs. Eyes bulging.

Prothorax. Glossy, dark testaceous. As long as broad, narrower than head. Shoulders round. Lateral constrictions at $\frac{3}{4}$ of length of prothorax. Punctures as on head with short black recumbent hairs.

Elytra (Fig. 27). Dark testaceous with a somewhat lighter transverse band in front of middle, not reaching median suture; less distinct lighter areas at shoulder and apex. Punctures distinct with dark recumbent hairs, somewhat longer than those on head, but on the lighter areas the hairs are lighter and thinner or absent.



Figs 23-27. *A. (Aulacoderus) oberprieleri* sp. nov. 23. aedeagus. 24. retracted abdominal segment of male. 25. last exposed abdominal sternum of male. 26. head. 27. elytron of male. Figs 24 and 25 at same magnification; figs 26 and 27 at same magnification; Fig. 23 as indicated.

Wings. Fully developed.

Antennae (Fig. 26). Slender, light testaceous but apical three segments broader, black and more hairy. Last segment as long as combined length of two preceding segments.

Legs. Light testaceous, coxae and distal half of femora somewhat darker.

Undersurface. Thoracic sterna lighter than abdominal ones. Mesepimerite apophyses with rounded, slightly forward curved apex and with fine spiral markings.

Male abdomen. Aedeagus (Fig. 23): median lobe slender with two ventral subapical pointed spines of which the proximal one is about twice as long as the distal one; genital opening subapical and elongate with beaded margin and a pair of short blunt points at its proximal end; connecting membrane with single dorsal row of about 38 teeth; tegmen very little sclerotized, basal piece about ten times as long as apical piece. Retracted segment (Fig. 24): tergum semicircular, little sclerotized, with subapical transverse dark line and basal row of fenestrae; sternum consisting of a pair of broadly triangular sclerites overlapping in the middle. Last exposed sternum (Fig. 25) with apical indentation with small median apical point.

MATERIAL EXAMINED. Holotype ♂, SOUTH AFRICA: Pretoria 25° 45' S, 28° 12' E, 20.X.1982, R. Oberprieler.

This is the only species so far recorded in this Section which does not occur along the coast. It has some striking features in common with the coastal species *A. (A.) sibayensis* van Hille (1971 and 1984, Figs 282–284). This species also has two ventral pointed spines on the median lobe of the aedeagus but they are shorter than in *A. (A.) oberprieleri* and the short points lie proximal to the genital opening. The last exposed abdominal sterna are almost identical. Pigmentation of *A. (A.) sibayensis* is much lighter and the pattern on the elytra is quite different.

REFERENCES

- VAN HILLE, J. C. 1971. Anthicidae (Coleoptera) from northern Zululand. *Transactions of the Royal Society of South Africa* **39**: 367–391.
- 1984. Monograph of *Aulacoderus* la Ferté, a subgenus of *Anthicus* Paykull (Coleoptera: Anthicidae). *Annals of the Cape Provincial Museums (Natural History)* **15**: 1–171.
- Descriptions of new species of *Anthicus* (*Aulacoderus*) from southern Africa (Coleoptera: Anthicidae). *Annals of the Transvaal Museum* (in press).

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